

METEORIC LAB TRAINING CHECKLIST (6/13/13)

During training, each person who will be working in the lab needs to complete this list with initials as they master skills and gain knowledge of the process. Only after this list is complete can a new user work alone in the lab.

NAME: _____

	PROCEDURE	DATE	PERSONNEL INITIAL	TRAINER INITIAL
Before starting work	Complete online safety courses			
	Read lab safety manual and detailed methods including MSDS for chemicals in lab			
	Understand chemical storage, movement, and labeling procedures			
	Understand chemical waste disposal procedures			
	Understand how to fill out waste tags and enter on line			
	Understand importance and use of personal protective gear including NO STREET SHOES and NO SHORTS			
	Know location and use of eyewash and safety shower			
	Know location and use of Calcium Gluconate cream and HF emergency information and First Aid kit			
	Understand protocol for yellow and red alarms and hood airflow alarm			
	Understand how and why we track entire procedure on printed batch sheet			
	Understand proper use of ultrasound and reason for water level (high/low)			
	Read the "11 commandments" of this lab and understand why they exist			
	Understand why we always use spill trays when pouring any chemicals.			
	Understand why any and all acid use must be done in a hood.			
	Understand why the hoods and lab counters must be kept free of clutter.			
	Understand why unattended operation labels on the hoods and the vestibule are critical for safety			
	When do you change the sticky mats?			
	When and where do you wash your hands after working in the lab?			

	Know the 4 important things to do that preserve the Eppendorf repipettors (never leave in the hood, store vertically in open air, don't invert, and push tabs before inserting tips)			
Sample weigh-in	Understand lab preparation prior to massing in and fluxing including hotplate, fluxer, savillex filling, and chemical placement			
	Know how to prepare datasheet and save in proper place			
	Know how to tare balance and use weighboat			
	Know how to scoop samples and the importance of using new spatula for each sample			
	Know importance of saving data sheet after each entry			
	Ensure the heating element is on EVEN IF hotplate itself is on			
	Know how to load pipette with carrier and how to dispose of first carrier shot properly into waste container			
Adding Flux Reagents	Know which size scoop is used for each of the reagents			
	Understand the importance of NOT "flinging" any sample out of the crucibles before they are fluxed by mixing slowly			
	Understand how precious the crucibles are and the importance of being gentle			
	Know the proper way to store Teflon stirrers (dirty end UP ALWAYS)			
	Realize the hazard of the materials you are working with			
Flux	Understand the dangers associated with liquid hot rock laced in molten HF			
	Understand the need for at least 500 psi of O2 before starting a batch			
	Recognize the importance of having backup ceramic rings at the ready in case one breaks			
	Understand the risk of cross-talk when using platinum tongs and the need to wipe them			
	Know importance of placing each crucible in PROPER beaker of MQ			
	Know importance of having another person present in the lab suite before doing this step			
	Understand the importance of a complete flux including final large flame for most representative results			
	Understand importance of allowing crucible to cool 1 minute before transfer			

	Understand that sample boils slightly when placed in beaker and IMPORTANCE of facing the crucible away from you			
	Understand the importance of washing flux stand before handling and storing			
	Know the importance of washing inside of the hood fully before moving on to the next steps			
	Understand that if you don't shut off O2 valve in the vestibule, you won't have O2 next time you flux			
Fusion cake removal and dry down	Understand the danger of hot HF; wait until samples cool			
	Know the importance of a gentle but thorough break-up of the KHF cake			
	Understand the importance of preventing crucible nesting when cleaning.			
Perchloric Acid precipitation and dry off	Understand risks involved with working with Perchloric acid and the importance of good air flow			
	Know location of cake waste beakers and the importance of using the proper vessel for waste			
	Make sure centrifuge caps are tightly screwed on before inverting solution			
	Understand the importance of the matrix order before samples go to 120 ml beakers			
	Know the importance of using Omnitrace nitric and NOT cleaning nitric for bringing up samples			
	Understand the importance of staying OUT of the lab once the Perchloric Acid starts evaporating			
Bring up and first Be OH precipitation	Understand the importance of using Omnitrace nitric and NOT the cleaning nitric			
	Understand the importance of avoiding Perchloric Acid droplets on the rim of the beaker			
	Know the importance of ensuring your sample goes basic for the precipitation to occur (yellow + 1 drop base)			
	Understand that your sample resides in the jell and the importance of not pouring off your precious sample jell			
	Know the importance of a thorough vortex in water for complete cleaning of your jell			
Cation Columns	Understand the importance of having a full batch of acid before starting columns			
	Know the benefits of writing the steps on the white board prior to starting			
	Know the necessity of leaving bottom caps on			

	longer than the top cap, ALWAYS			
	Know the importance of using the proper molarity acid for each step			
	Know the importance of placing boron and sample tubes at the proper times to not lose PRECIOUS sample			
ICP Splits	Know why you need new tips for each sample			
	Understand the importance of proper volumes for correct interpretation of ICP results			
	Understand importance of a thorough vortex step after adding acid			
	Know why green racks do not leave the lab			
Final precipitation from HCL, redissolution in Nitric, and washing	Know the importance of ensuring your sample goes basic for the precipitation to occur (yellow + 1 drop base)			
	Understand that your sample resides in the jell and the importance of not pouring off your precious sample after centrifuging.			
	Know the importance of a thorough vortex in MQ water for complete cleaning of your jell			
	Understand the importance of dissolving the sample in OMNITRACE 1% Nitric Acid, precipitating, and WASHING for the last time.			
	Understand that washed Be jells should be labeled with tape as such and stored under the hood.			
Drying jells	Understand the risks involved with sucking away all the water without sucking up your sample			
	Understand the importance of a slow dry-down at 65 degrees for good pellet formation			
	Understand why caps need to be labeled and kept in order.			
	Understand that dried Be should be labeled with tape as such and stored under the hood.			